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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,592	10/01/2003	Ronald L. Brookshire	1088.007	7973

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EXAMINER
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COCKS, JOSIAH C

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/676,592

Applicant(s)

BROOKSHIRE ET AL.

Examiner

Josiah Cocks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-7 is/are allowed.
- 6) ☒ Claim(s) 8-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Receipt of applicant's amendment filed 10/15/2004 is acknowledged.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 8-14 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,610,622 to Quinell ("Quinell") in view of U.S. Patent No. 3,822,985 to Straitz, III ("Straitz '985") and U.S. Patent No. 4,392,816 to Berlie et al. ("Berlie").

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Quinell discloses in the Figure a flare gas burner similar to that described in applicant's claims 1-19. In particular, Quinell discloses a shroud (44), a waste gas riser (10) defining a passageway, a pipe (16) connected to the passageway, and a flow alteration assembly, in the form of deflector (42) positioned within the riser.

Quinell does not disclose plural non-straight pipes mounted in communication with the passageway or that the first flow alteration assembly includes moveable louvers.

Straitz '985 teaches a waste gas burner analogous to that of Quinell. In Straitz '985, a plurality of gas delivery pipes are present that include a radial segment in the form of a portion of pipe (31) and a non-straight portion (35) that creates a swirling flow of the burning gases (see Fig. 2 and col. 3, lines 31-34). It would have been obvious to a person of ordinary skill in the art to modify the delivery pipes of Quinell to incorporate the plural non-straight pipes of Straitz '985 as the swirling flow produced by the pipes produces smokeless operation (see Straitz '985, col. 4, lines 7-9).

Berlie also teaches a waste gas burner analogous to that of Quinell. In Berlie a flow alteration device is in the form of movable louvers/vanes (17) that are arranged to provide sufficient air-flow based on the waste gas flow (see Berlie, col. 3, lines 10-12 and 59-64). The angle of the vanes is dependent upon air-flow requirements and must necessarily be moveable. The examiner considers that as the louvers are moveable they would be capable of being manually moved. Further, the examiner considers it would be inherent that in controlling the movement of the vanes/louvers a member would extend outside of the shroud. Therefore, it would be obvious to a person of ordinary skill in the art to modify Quinell to incorporate the

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moveable louvers of Berlie to desirably adjust the air flow based on the waste gas flow to ensure that all the waste gas is consumed (see Berlie, col. 3, lines 22-26).

In regard to the recitation of the claims that the type of gas being burned is methane, it is well known in the art that methane is a type of gas burner in waste gas flares. Support for this assertion is found in the paragraph spanning columns 3 and 4 of Berlie, which recites that methane is contemplated as being a waste gas burned in a flare of this type. Therefore, a person of ordinary skill in the art would recognize that methane may be burned in the waste gas burner of Quinell.

In regard to the limitations of the claims concerning the number of pipes, and the angle of these pipes, to have selected the specific values recited in applicant's claims would be simply a matter of optimizing the number and angle of the pipes present in Straitz '985 and would be obtainable through routine experimentation. See MPEP § 2144.05(II)(A). Accordingly, these limitations are not considered to patentably distinguish applicant's invention.

5. Claims 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinell in view of Straitz '985 and Berlie as applied to claims 11 and 17 above, and further in view of U.S. Patent No. 5,364,262 to Phillips ("Phillips").

In regard to the recitation that the louvers are moveable in response to a computer signal, Phillips is cited to show that it is understood in the art that a control unit (20) having a computer (see col. 2, lines 44-53) may be used to control valving members in a waste gas system in order to control operating parameters. A person of ordinary skill in the art would recognize that the moveable louvers of Berlie which are moveable based on an operating parameter would be

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moved via a computer control unit such as that of Phillips as this allows for rapid and automatic control (see Phillips, col. 1, lines 60-62).

***Response to Arguments***

6. Applicant's arguments filed 10/15/2004 with regard to claims 8-20 have been fully considered but they are not persuasive. As noted above, the examiner considers that as the angle of vanes/louvers of Belie are dependent upon the combustion-air flow requirements into the combustion chamber, these vanes must necessarily be moveable. Also as noted above, the examiner considers that the multiple pipes of Straitz '985 include a radial segment in the form of a portion of pipe (31) for each pipe with non-straight end (35) extending from the pipe (31).

***Allowable Subject Matter***

7. Claims 1-3 and 5-7 are allowed.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (571) 272-4877. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Any questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

jcc  
December 20, 2004

  
JOSIAH COCKS  
PRIMARY EXAMINER  
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